



THE ST. LOUIS REPUBLIC.

Magazine Section.



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NINETY-SECOND YEAR.

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"DON'T SHAKE HANDS." SAYS THE BACTERIOLOGIST. DANGER LURKS WITHIN THE HUMAN PALM.

WRITTEN FOR THE SUNDAY REPUBLIC.

Science is beginning to level its shafts at the deadly habit of shaking hands. Warnings have been sounded from the den of the bacteriologist, the office of the physician and the columns of the medical journal against the form of greeting for which Americans are world-famous. Wise men have declared that one risks his life whenever he grasps the outstretched hand of friend or stranger, and leaders of fashion have been appealed to to invent some other form of salutation.

According to these men of science there is more danger in the open palm of hospitality than in the clenched fist of the assassin. The danger clutched in the latter does not kill half so many men as the germs which cling to, and are transmitted by, the former—so they say.

And they are deeply in earnest about it—these deliverers into the ways of disease. They do not like their warnings to be received with the spirit of jesting or the smile of incredulity. For the bacteriologist, be it known, lives in the valley of the shadow of death, and is not the man to jest. When he spends weeks, months, years, seeking, cultivating and studying the habits of bacteria he arrives at definite conclusions and is prepared to demonstrate what he knows.

"How about vaccination?"
"How about quarantine restrictions?"
These are questions fired in rapid succession at the man who dares express or even hint the doubts which are born of every advance in the science of living.

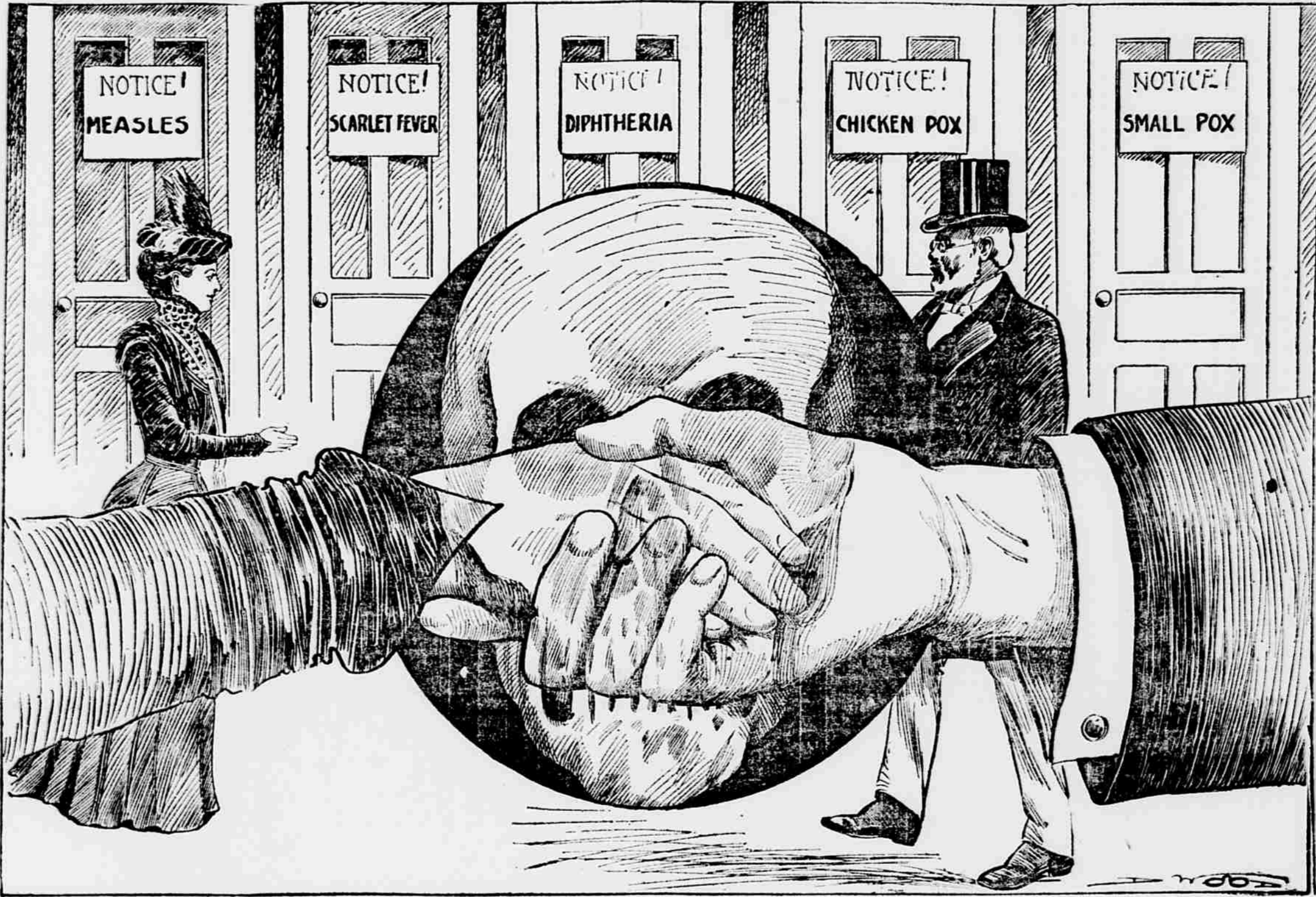
You don't believe it? Well, go ahead then; shake hands with every one you meet; but don't blame me when you are taken ill and can't think where on earth you contracted the illness."

If this covert, if not conclusive, argument doesn't convince the doubter, the man of science usually becomes disgusted and goes his way. But if there are signs of awakening interest and budding belief, he will continue somewhat after this fashion: "We have found in and on the skin of men's hands bacilli of almost every known variety. The human hand comes in contact with practically everything, or by reason of its construction is a regular hot-bed of germs. Take the finger nails, for instance. Each of them is a natural culture medium, and under and around each could be put enough disease germs to poison a whole city, if properly distributed. One can never tell when his hands are freighted with germs, and for this reason it becomes scientifically criminal to deliberately make opportunity for their dissemination."

Then the scientist will go on to show how easy it is to spread disease germs by hand-shaking, and the chances are the listener will resolve to quit the dangerous practice, forthwith and forever.

But the convert soon forgets. Within an hour, perhaps, he is grasping the hand of a friend whom he has met on the street; and in a few days, at most, ceases to think of the awful consequences which may ensue from the practice. To combat this force of habit, a wholesale crusade against hand-shaking is being organized in the East. Science has enlisted fashion under her banner, and preliminary skirmishes have been fought in more than one drawing-room between adherents of the old custom and those who are determined to put it down.

Doctor R. B. H. Gradwohl of the City Chemist's staff, who spends his days trying to fathom the terrors of the water which



On the Sidewalk on His Way Home the Doctor Meets a Friend, and, Not Thinking, Extends His Hand.

Chicago is sending this way through its streets a man who knows thousands of deadly bugs by name, has taken a lively interest in this Eastern-born crusade, and no longer extends the "old hand" to every man who comes his way. He takes the matter as seriously as do his brother bacteriologists.

"The doctor is the last man on earth to shake hands with," he declares. "He literally carries emissaries of death in his

palms, and should be careful not to extend his hand, even to his enemies. We have recently learned that it is impossible to really sterilize the hands, no matter how great the precaution used, and this puts even a more serious aspect on the matter.

"There isn't the slightest doubt that many diseases may be and are transmitted by the hands. Among these are to be noted consumption, typhoid fever, scarlet fever,

measles, blood poisoning, cholera and even leprosy and the bubonic plague. Some of these diseases, like scarlet fever and measles, make their attack through the skin and deposit their germs in the skin. Tiny scales are formed on the skin of all persons attacked, and these tiny scales are the means of spreading the germs. They will cling most tenaciously to the moist palm, and from the hand find their way into the

system."

Then the doctor cited an hypothetical case to illustrate his views. He pictured a physician on his rounds—first at the bedside of a scarlet-fever patient; then in a home where tuberculosis had found a victim; next in the operating ward of a hospital; and finally on the sidewalk on his way home the doctor meets a friend, and, without thinking, extends his hand. He

may have scrubbed that hand with soap and water and may have immersed it several times in a bi-chloride solution; but he may not have destroyed the messengers of death it carries.

The friend grasps the doctor's hand. They chat a few minutes and go their respective ways. The doctor meets other friends, and the friends, in turn, meet their friends. The disease germs become scattered in all direc-

tions, and finding lodgment in congenial soil begin to multiply at a rate incalculably rapid.

Some of them find vulnerable points and set to work on their mission of destruction. In a few days the doctor is called on to minister to one or more of the friends whom he has unwittingly and unconsciously made ill. The disease spreads from one house to two; from two to four, and so on until the community is feeling from an epidemic and in its flight is carrying the seeds of destruction to other communities.

One doesn't care to follow the doctor's hypothetical case to its logical conclusion. The thought of it makes cold chills creep up the back and gives the tiny most which floats in the sunbeam the head and tail and the fangs and scales of the dragon. Death seems to lurk in everything and one begins to wonder how man survived through the centuries when germs were unknown, and the swarming myriads of deadly things went about their work unmolested.

Then the other side of the picture is shown. The doctor begins to explain that billions of the germs die without having found vulnerable points in the human frame; that even the most malignant are powerless unless the person attacked is in condition to be inoculated; and finally, that many of the squirming things which look most horrible through the microscope are perfectly harmless.

The deadly habit of shaking hands would be robbed of more than half of its terrors, but for the "hand-to-mouth" habit of all men. Did you ever think how many times the hands find their way to the mouth during the course of a single day? If you could keep tab on yourself, you would be astonished at the number of times the fingers come in contact with the lips every twenty-four hours. Here is where the ever-present bacillus gets in his work. From the finger tips he is transferred to the lips, from the lips to the tongue; from the tongue to the salivary glands; and soon he is delving into every part of the system. If he is a malignant fellow—the advance agent of any of the dreaded diseases—he is constantly on the lookout for a point of attack. His implements of warfare are not sharp enough to pierce the skin, or even the thin tissue of the mucous membrane; but if there is the slightest abrasion anywhere in his pathway, and he can sense even one red blood cell, he buries himself in it, proceeds to eat and grow fat as he is pumped through and through the arteries and veins by the pulsations of the heart; and in a wonderfully short time his name is legion and his goal the grave.

Thus the two habits, hand-shaking and putting the hands to the mouth, work together. Cases of infection which may be traced directly to the two practices are reported in medical journals from time to time, and from the record-books of every hospital any number of them may be gleaned. Many cases are noted which cannot be accounted for in any other way.

The recent outbreak of the bubonic plague in several quarters of the globe, and the fear that it may reach the shores of America, has given a fresh impetus to this anti-hand-shaking crusade in the Atlantic seaboard cities. The scare has made people more willing to listen to the warnings of science, and it would not surprise the wise men if they succeeded in setting a new fashion of greeting throughout the land. What will the new fashion be?

THE REV. CHARLES M. SHELDON GIVES AN OPTIMISTIC FORECAST OF THE RELIGIOUS CONDITION OF THE COMING CENTURY.

BY THE REV. CHARLES M. SHELDON.

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It would be easier in one sense to predict what the religion of the Fortieth Century would be than to attempt a prophecy of the religion of the next 100 years.

We know that in the end Christianity will triumph and the religion of Jesus will prevail at the end of the world. But the changes, reverses, struggles, defeats, temporary revolutions and reconstruction between now and then are beyond the knowledge of man. If, however, we make an earnest attempt to predict the religion of the Twentieth Century we may forecast certain probable events which may determine the form of religion of the next century.

First—The tendency at the close of this century seems to be toward a federation of different sects. If this federation becomes a practical reality within the next fifty years it will determine one factor in the Twentieth Century religious life.

Second—The study of social problems at present is a study which is more and more recognized as having at the foundation a religious reason. Any prediction of the religion of the next century would be obliged to take this fact into account, if the practical teachings of Jesus concerning the stewardship of wealth, the ownership of property and the brotherhood of the race are destined to find real expression in the actual daily lives of men. No man can predict the tremendous changes that may take place in forms of worship in church organizations and in the whole programme of outward religious forms.

Third—The movement for simple expression of creeds that are essential to life is a movement that may largely determine the form of the next century religion. This movement is simply a part of the entire present day social debate, so far as it is religious. And it may be truly said that it is fast becoming a recognized truth that any social debate which leaves out the religious factor is not worth having. The entire restlessness for a better physical life of the race is caused by the underlying religious nature of man.

Fourth—The failure, in some degree, at least of the outward church of the century to take a sympathetic part in the struggle going on between rich and poor may determine to some extent the church of the next century. The church

of the next century will not necessarily represent the religion of the following century, but it may be a factor in determining the outward form of its life. According to some Christians, the church of to-day does not represent the Christianity of Christ, and is not a leader in any sense in any reforms or in any human progress.

Fifth—On the other hand, an awakening spirit of discipleship in the church of to-day is keeping alive the teachings of Jesus, and may, with a rapidity that is not anticipated, move through the entire circle of Christendom, and translate its formal worship into actual service and its outward form into inward life. If this element in the church, which now finds expression in the institutional church, gains the ascendancy, it may sweep into the Twentieth Century with a power that shall mark the greatest triumph known for Christianity since it conquered paganism in the Roman world.

Sixth—There are unknown factors which no man can measure that will be a part of the outcome, as far as the Twentieth Century religion is concerned. Among the unknown factors are the nominal Christianity of the age, the spent force of pagan religions, the tremendous momentum of the present century toward moneyed power, the conflicting political movements of the age and the uncertain future of those nations just emerging from idolatry into intellectual freedom, but not yet ready to accept and live as pure Christians.

Seventh—It might be safe to say, and it certainly would be the Christians' hope, that the religion of the Twentieth Century will be characterized by a large love for the human brotherhood, by the coming together of hitherto separated denominations, by a simpler form of vital creed, by a nobler and far simpler form of outward worship, by a practical application of the teachings of Jesus to the business and political life, and by a firmer belief in the ultimate triumph of Christianity itself. Our main business is to help make the religion of the present time what it ought to be, rather than speculate on what it is going to be. The religion of the Twentieth Century will be what it ought to be if Christendom to-day makes its religion what it ought to be.

ST. LOUIS BOILERS MAKE A STEAM GIRDLE ABOUT THE WORLD.

ONE Set is Lost in South Africa, but Others Are Doing Valiant Duty Elsewhere.

WRITTEN FOR THE SUNDAY REPUBLIC.

When the British and Boers have settled their troubles and the wheels of trade begin to revolve once more in South Africa, it is probable that the newspapers of the Dark Continent will all print advertisements as indicated above. For, as strange as it may seem, a whole battery of steam-boilers, six in all, with a total capacity of 1,600-horse power, has been lost, and a search extending over several months and involving great expense has failed to locate it.

Something like \$100,000 is invested in that battery of boilers, and this fact gives rise to the suspicion that they weren't accidentally lost. The St. Louis factory got its money when they were placed aboard ship at New York some months ago, so no sleep is being lost over the matter at this end of the line, although the builders are doing what they can to help locate them.

They were landed at Lorenzo Marquez, put aboard freight cars and started inland just at the beginning of the war. At what point they were sidetracked has never been learned, but it was somewhere over the Vaal. They were "traced" beyond the Brit-

ish lines and there the pursuit was abandoned.

This incident in the South African war calls attention to the important part St. Louis is playing in the development of the mineral, agricultural and commercial wealth of the world. Boilers made here are furnishing the motive power for engines, drills, pumps and other machinery in the four corners of the earth, and the trade in them is doing much to spread the name and fame of St. Louis.

These boilers are now in service in every land where steam is used. They are digging and crushing gold ore from the black hills around Duryea, Alaska. The Treadwell

Gold Mining Company of that town has a battery of ten of them, which generate 2,500-horse power of energy. They are crushing sugarcane and reducing it to sugar in the Hawaiian Islands, in Cuba and Puerto Rico and elsewhere.

They are digging gold and making electricity in far-away Australia, as well as in the Transvaal and at the Cape of Good Hope.

Some of them are being used in Yokohama by the "Yamato of the Orient," and the Tokyo Electric Company of Japan has just placed an order for several more.

Away over in Russia, at Nijni-Novgorod, St. Louis boilers are making steam for the

Sormora Company, the great industrial corporation of the world-famous fair city and fifteen or twenty of them are showing the Mexicans what American machinery can do for gold-producing land which had been abandoned as too poor to work.

It was less than ten years ago when the first St. Louis boiler went abroad to make a name for itself and that one went only as far as Cuba. It was several years after that before the export trade was taken hold of seriously.

Speaking of the possibilities of the export branch of the business, Mr. E. R. Fish of the Helme Safety Boiler Company said: "We look for a great boom in South Africa as soon as the war is ended and think there will be much trade there for St. Louis, not only in our line, but in all similar branches of trade."

"The development of the Transvaal is to a large extent in the hands of American engineers, who know the advantages of up-to-date American machinery. This gives us a slight advantage, but even if this were not the case, we'd get the trade, because when St. Louis goes after business she lands it."

INDEX TO MAGAZINE FEATURES.

Page.

1. Don't Shake Hands, Says the Bacteriologist.
Sheldon on the Coming Century.
St. Louis Boilers Girdle the Earth.
2. Beauties of the New St. Louis Club.
Conching at Hot Springs.
Eighteen Years Old and a Philosopher.
Bright Lines From "The Tyranny of Tears."
3. Will Pay One Million Dollars for Easter Bonnets.
Cupid Made Her Change Her Mind.
The New Collar and Four-in-Hand Tie.
4. Victoria's Visit to Ireland.
A Group of New Stage Stories.
"Kids' Underwear" at "Castle Square."

5. Memoir of Horace Walpole.
Famous Poems.
Information for Literary Ladies.
How Phrases Originated.
Famous Persons in Anecdote.
6. Work and Play at Self-Culture Hall.
Men of Affairs Who Walk for Exercise.
7. Capitol at Washington to Be Enlarged.
Resources of the Philippines.
8. A Romance.
9. The Training of the Stage Supernumerary.
Story of a "Supe."

10. World's Fair Suggestions From Citizens of Prominence.
Would You Avoid Seaside?.
11. Camera in the Kitchen.
Possibilities of Love.
No Such Man as Shakespeare?
Story of Morning Life.
Andromeda and Her Personae.
Story of the Middle Ages.
Tolstoi's New Book.
Mrs. Burnett's First Husband.
Maude Adams to Play "L'Aiglon."
12. Paris Is Bright With Springtime Modes.
Straw Braid and Cane in Millinery.
What Women Will Wear.
The Happy Knack of Little Things.